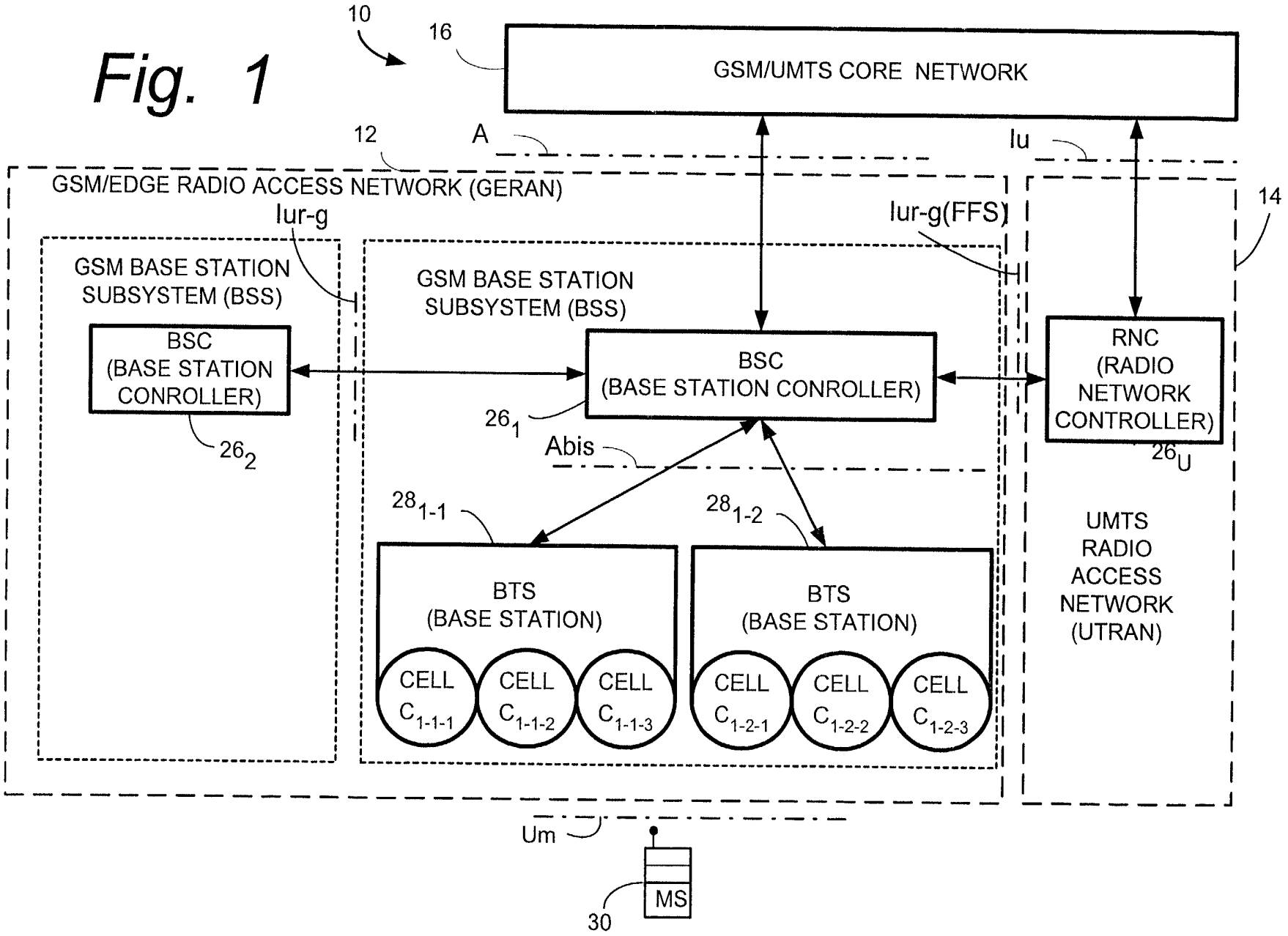
Fig. 1


10
16
GSM/UMTS CORE NETWORK
12
A
Iu
GSM/EDGE RADIO ACCESS NETWORK (GERAN)
Iur-g
Iur-g(FFS)
14
GSM BASE STATION SUBSYSTEM (BSS)
BSC (BASE STATION CONROLLER)
26 2
GSM BASE STATION SUBSYSTEM (BSS)
BSC (BASE STATION CONROLLER)
26 1
RNC (RADIO NETWORK CONTROLLER)
26 U
Abis
28 1-1
28 1-2
BTS (BASE STATION)
BTS (BASE STATION)
CELL C 1-1-1
CELL C 1-1-2
CELL C 1-1-3
CELL C 1-2-1
CELL C 1-2-2
CELL C 1-2-3
UMTS RADIO ACCESS NETWORK (UTRAN)
Um
MS
30

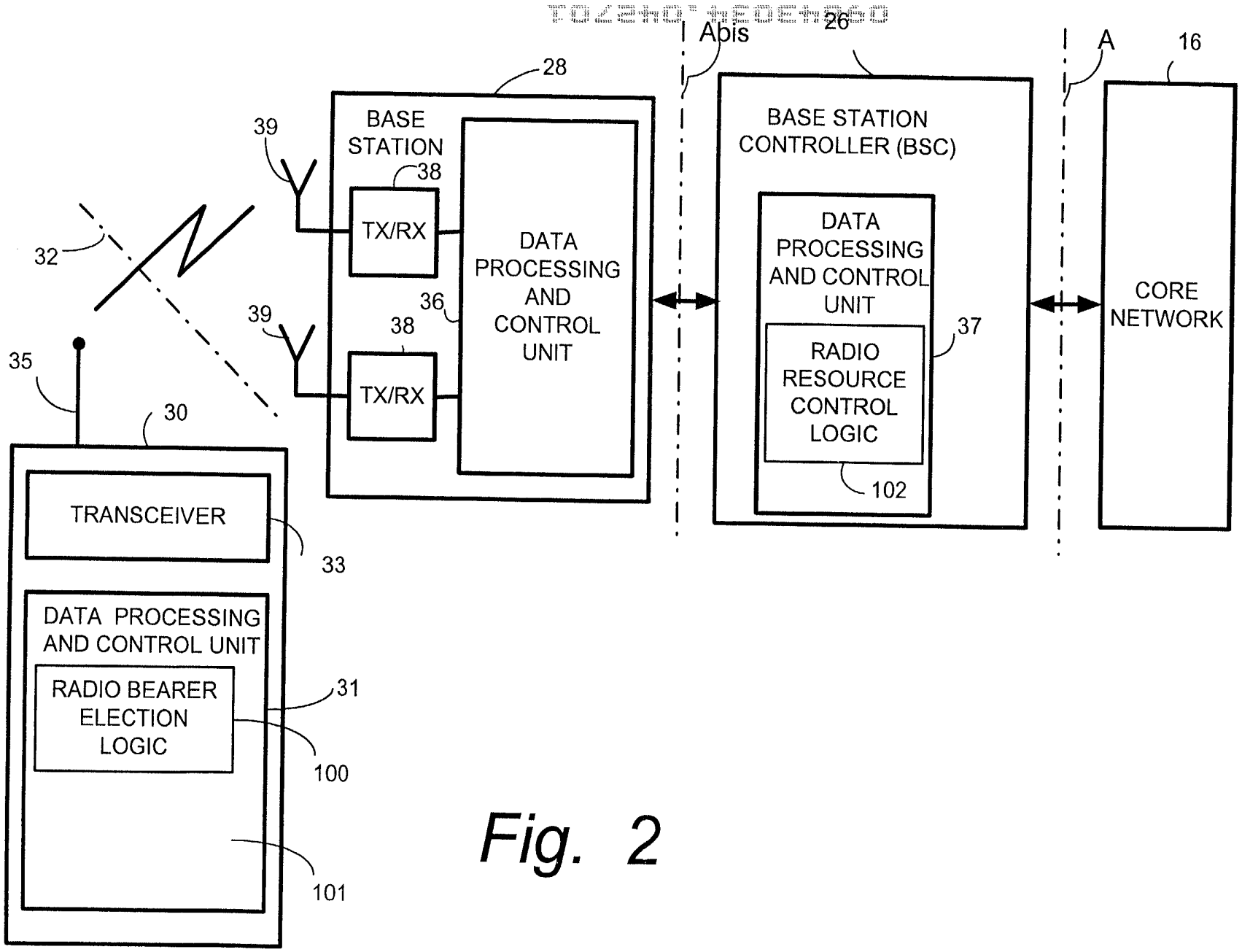

Abis
26
A
16
28
BASE STATION
39
38
TX/RX
DATA PROCESSING AND CONTROL UNIT
36
39
38
TX/RX
32
35
30
TRANSCEIVER
33
DATA PROCESSING AND CONTROL UNIT
RADIO BEARER ELECTION LOGIC
31
100
101
BASE STATION CONTROLLER (BSC)
DATA PROCESSING AND CONTROL UNIT
RADIO RESOURCE CONTROL LOGIC
37
102
CORE NETWORK

Fig. 2

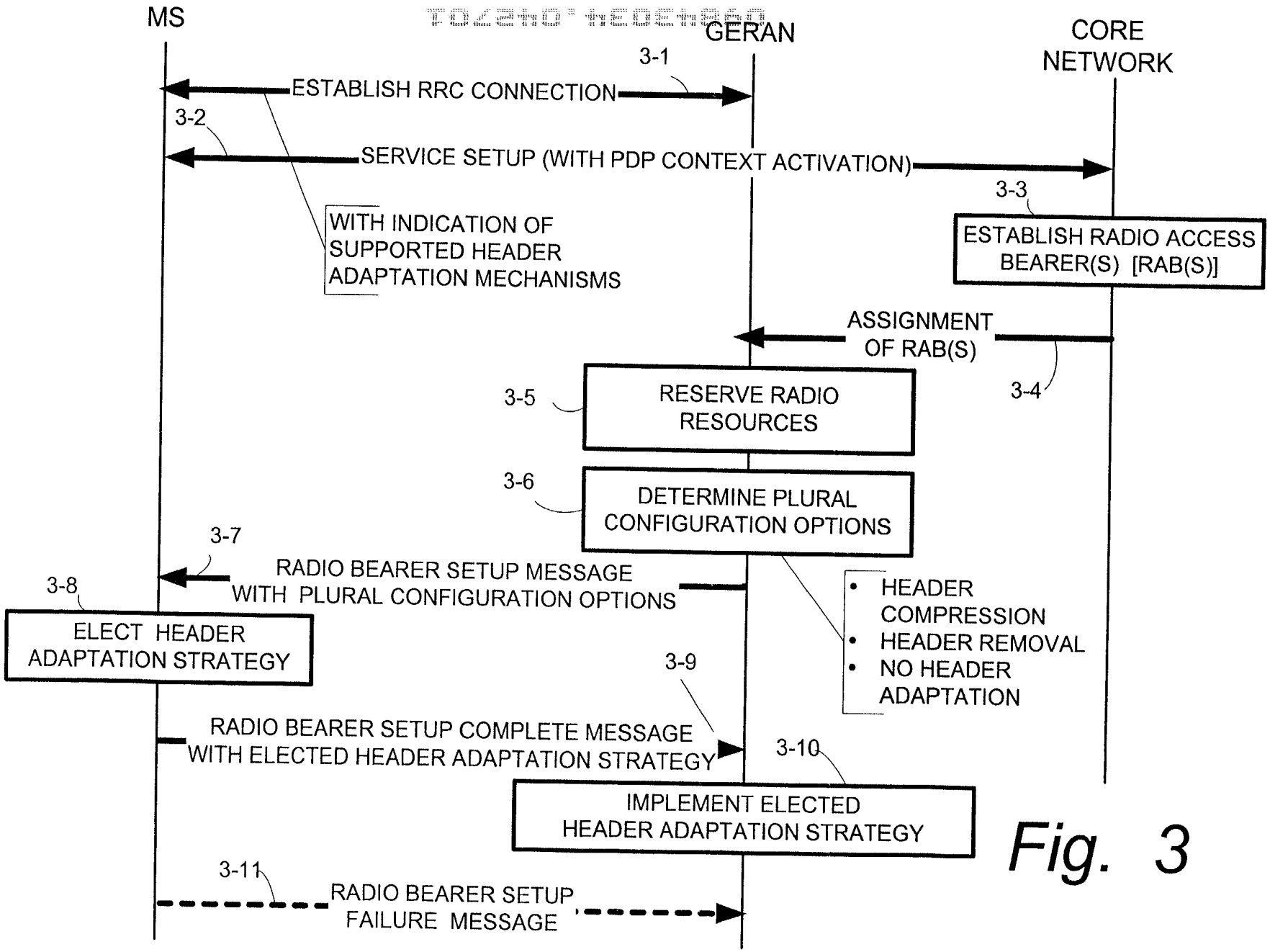

MS
GERAN
CORE NETWORK
3-1
ESTABLISH RRC CONNECTION
3-2
SERVICE SETUP (WITH PDP CONTEXT ACTIVATION)
WITH INDICATION OF SUPPORTED HEADER ADAPTATION MECHANISMS
3-3
ESTABLISH RADIO ACCESS BEARER(S) [RAB(S)]
ASSIGNMENT OF RAB(S)
3-4
3-5
RESERVE RADIO RESOURCES
3-6
DETERMINE PLURAL CONFIGURATION OPTIONS
3-7
RADIO BEARER SETUP MESSAGE WITH PLURAL CONFIGURATION OPTIONS
• HEADER COMPRESSION
• HEADER REMOVAL
• NO HEADER ADAPTATION
3-8
ELECT HEADER ADAPTATION STRATEGY
3-9
RADIO BEARER SETUP COMPLETE MESSAGE WITH ELECTED HEADER ADAPTATION STRATEGY
3-10
IMPLEMENT ELECTED HEADER ADAPTATION STRATEGY
3-11
RADIO BEARER SETUP FAILURE MESSAGE

Fig. 3

Fig. 4A

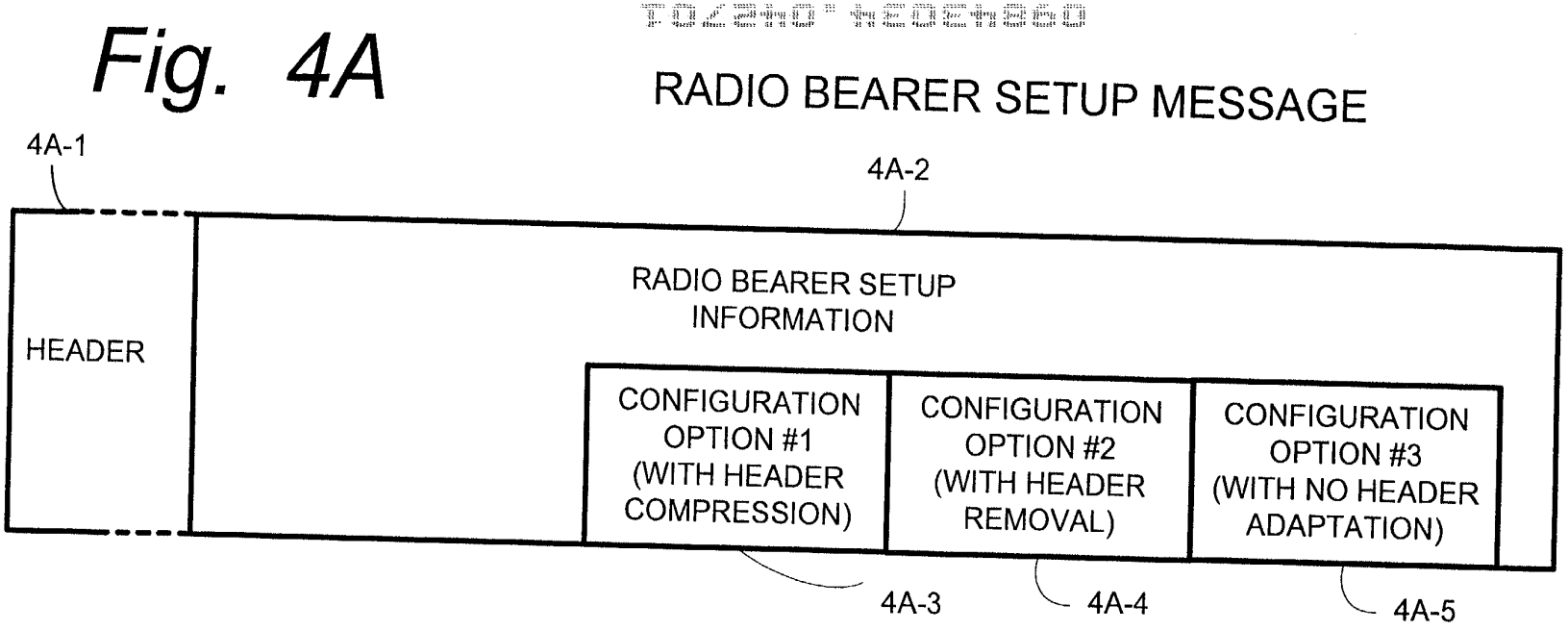
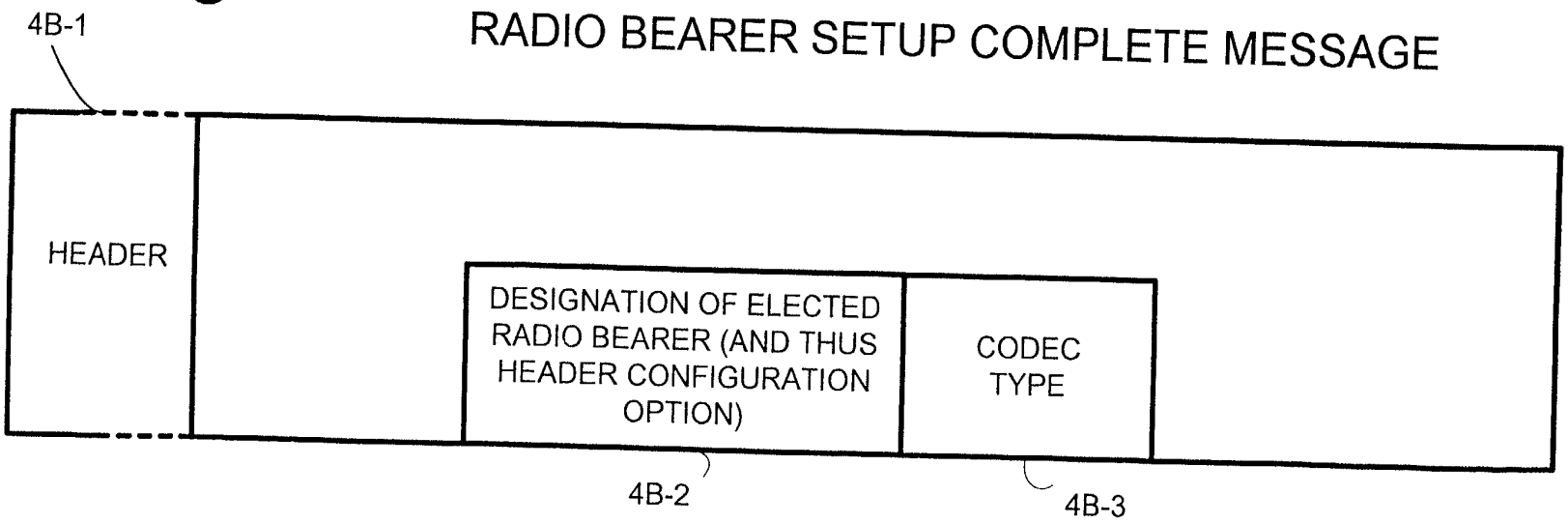

RADIO BEARER SETUP MESSAGE
4A-1
4A-2
HEADER
RADIO BEARER SETUP INFORMATION
CONFIGURATION OPTION #1 (WITH HEADER COMPRESSION)
CONFIGURATION OPTION #2 (WITH HEADER REMOVAL)
CONFIGURATION OPTION #3 (WITH NO HEADER ADAPTATION)
4A-3
4A-4
4A-5

Fig. 4B


RADIO BEARER SETUP COMPLETE MESSAGE
4B-1
HEADER
DESIGNATION OF ELECTED RADIO BEARER (AND THUS HEADER CONFIGURATION OPTION)
CODEC TYPE
4B-2
4B-3

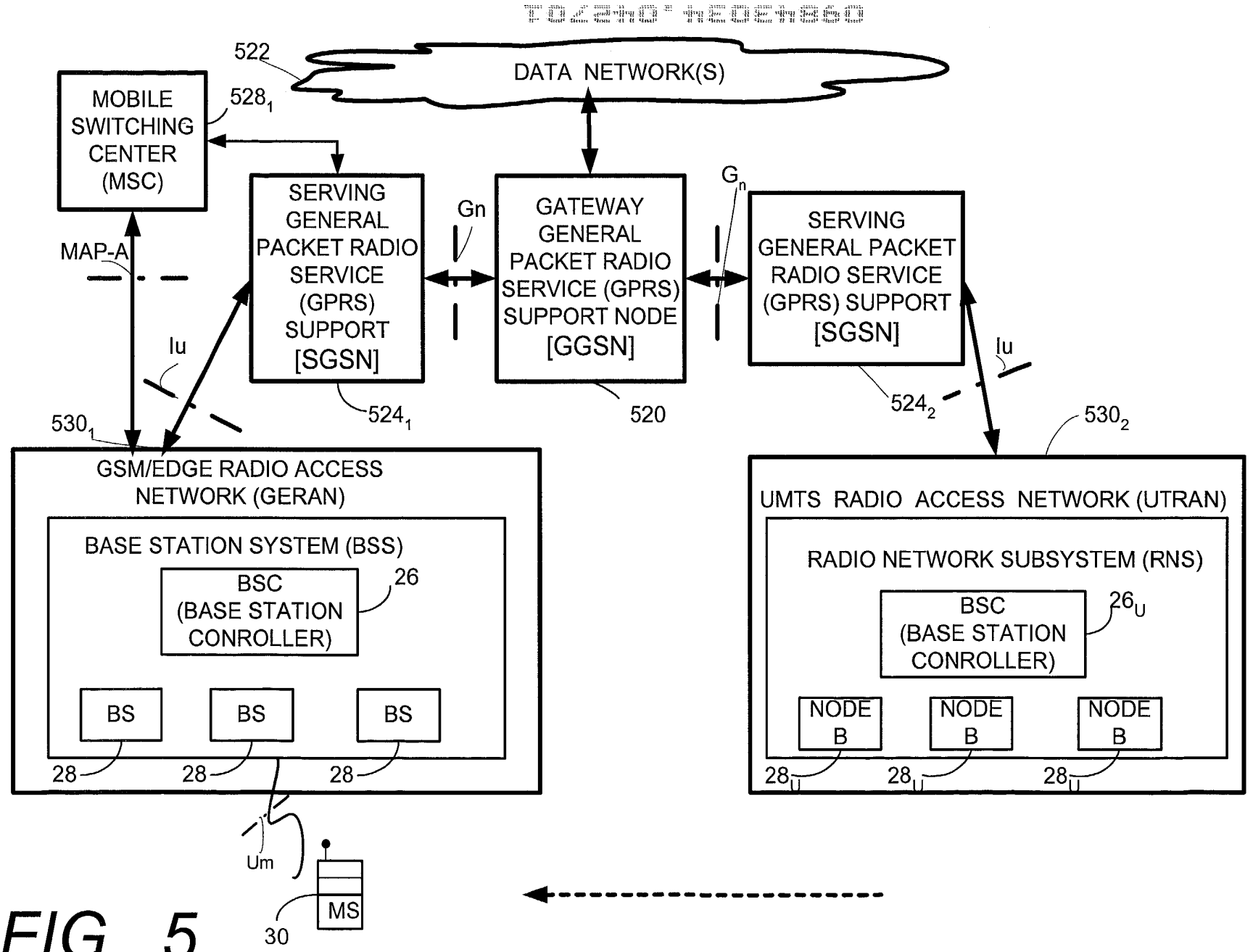

522
DATA NETWORK(S)
MOBILE SWITCHING CENTER (MSC)
528_1
MAP-A
Iu
SERVING GENERAL PACKET RADIO SERVICE (GPRS) SUPPORT [SGSN]
524_1
Gn
GATEWAY GENERAL PACKET RADIO SERVICE (GPRS) SUPPORT NODE [GGSN]
520
G_n
SERVING GENERAL PACKET RADIO SERVICE (GPRS) SUPPORT [SGSN]
524_2
Iu
530_1
530_2
GSM/EDGE RADIO ACCESS NETWORK (GERAN)
BASE STATION SYSTEM (BSS)
BSC (BASE STATION CONROLLER)
26
BS
BS
BS
28
28
28
UMTS RADIO ACCESS NETWORK (UTRAN)
RADIO NETWORK SUBSYSTEM (RNS)
BSC (BASE STATION CONROLLER)
26_U
NODE B
NODE B
NODE B
28_U
28_U
28_U
Um
MS
30

FIG 5

Fig. 6

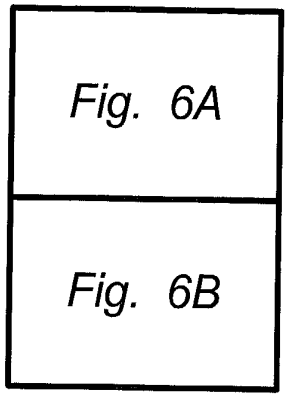


Fig. 7A

TYPICAL IP PACKET

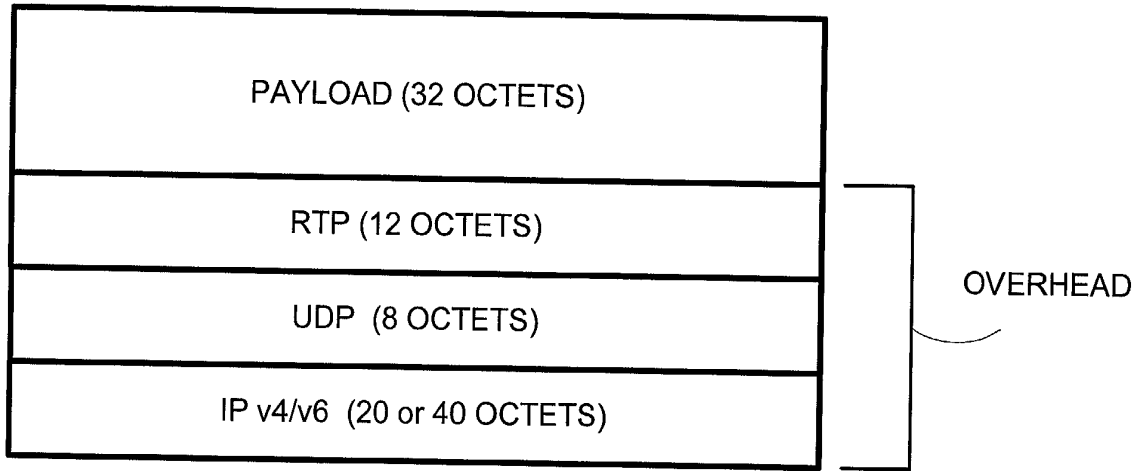
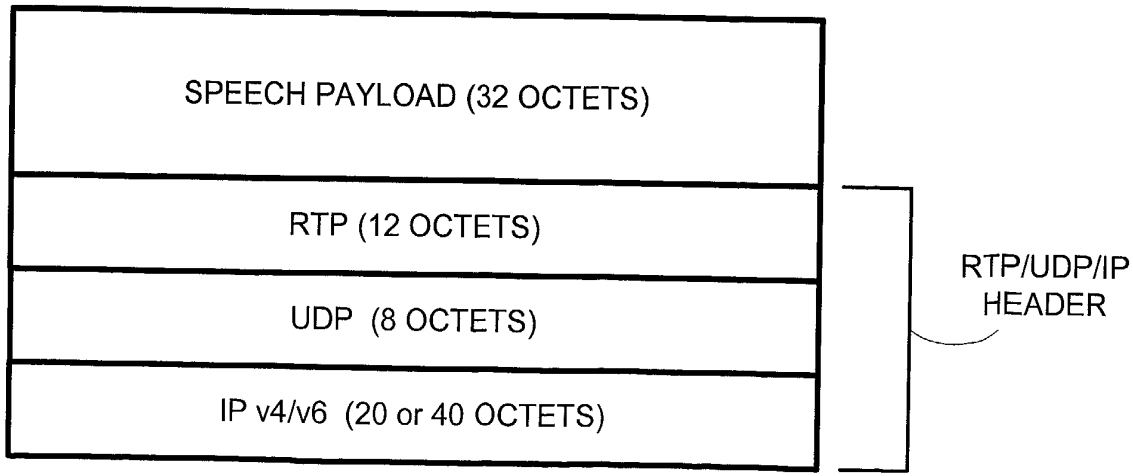


Fig. 7B

TYPICAL IP PACKET FOR SPEECH



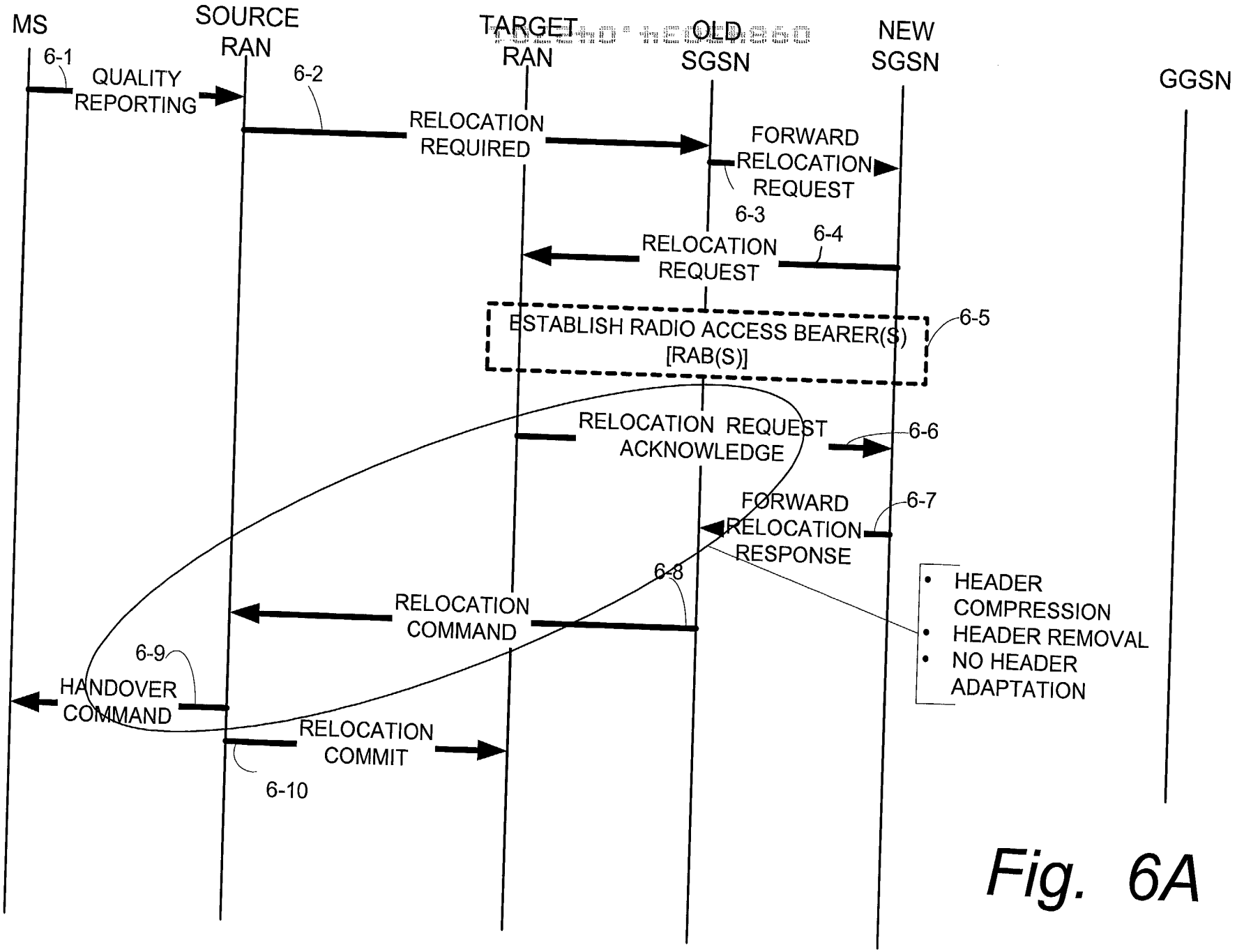

MS
SOURCE RAN
TARGET RAN
OLD SGSN
NEW SGSN
GGSN
6-1
QUALITY REPORTING
6-2
RELOCATION REQUIRED
FORWARD RELOCATION REQUEST
6-3
6-4
RELOCATION REQUEST
ESTABLISH RADIO ACCESS BEARER(S) [RAB(S)]
6-5
RELOCATION REQUEST ACKNOWLEDGE
6-6
FORWARD RELOCATION RESPONSE
6-7
6-8
RELOCATION COMMAND
HEADER COMPRESSION
HEADER REMOVAL
NO HEADER ADAPTATION
6-9
HANDOVER COMMAND
RELOCATION COMMIT
6-10

Fig. 6A

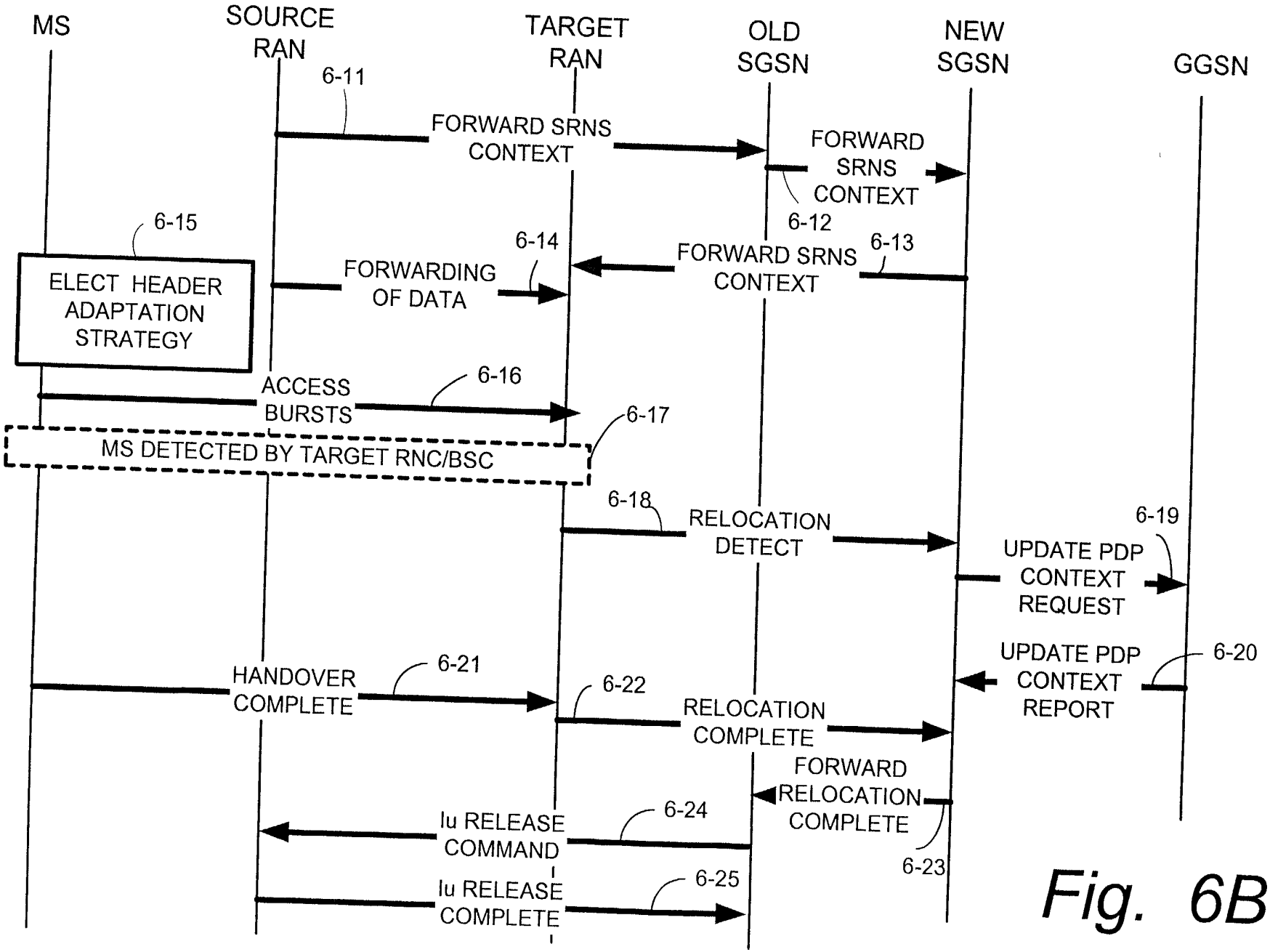

MS
SOURCE RAN
TARGET RAN
OLD SGSN
NEW SGSN
GGSN
6-11
FORWARD SRNS CONTEXT
FORWARD SRNS CONTEXT
6-12
6-15
ELECT HEADER ADAPTATION STRATEGY
6-14
FORWARDING OF DATA
FORWARD SRNS CONTEXT
6-13
ACCESS BURSTS
6-16
6-17
MS DETECTED BY TARGET RNC/BSC
6-18
RELOCATION DETECT
6-19
UPDATE PDP CONTEXT REQUEST
UPDATE PDP CONTEXT REPORT
6-20
HANDOVER COMPLETE
6-21
6-22
RELOCATION COMPLETE
FORWARD RELOCATION COMPLETE
6-23
Iu RELEASE COMMAND
6-24
Iu RELEASE COMPLETE
6-25

Fig. 6B